

Application Number 10/057,574
Responsive to Office Action mailed December 23, 2005

REMARKS

This amendment is responsive to the Final Office Action dated December 23, 2005. Applicants have amended claims 1, 10, 11, 21, 27, 29, 32 and 39. Claims 1-8, 10-42 and 45 are pending.

As a preliminary matter, Applicants acknowledge that the Examiner again requested a new Abstract that is "more aptly descriptive of the invention claimed." In the Office Action, the Examiner stated that Applicants' Abstract is nothing more than a component list instead of the gist of the invention claimed. In order to advance prosecution of the current application, Applicants have amended the Abstract to state that the replay module uses the replay data to recreate network activity in order to test the computing network. Applicants' Abstract, as amended, clearly describes the invention as claimed.

However, Applicants do not acquiesce to the Examiner's rejection of the Abstract. Applicants' Abstract clearly describes a replay module that communicates replay data to agents coupled to a computing network and issues commands to control introduction of the replay data on the computing network by the agents. The gist of the invention that the Abstract describes is how the system *controls introduction* of the replay data on the computing network to test the computing network.

Claim Rejection Under 35 U.S.C. § 112

In the Final Office Action, the Examiner rejected claims 1-8, 10-42 and 45 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner stated that claims 1, 29 and 39 include no antecedent basis for "the captured network data". In order to provide sufficient antecedent basis, Applicants have amended claims 1, 10, 11, 27, 29 and 39 to recite "the captured network packets". The Examiner also stated that the definition of the term "medium" in Applicants' claim 39 is not clear. In order to provide sufficient clarity, Applicants have amended claim 39 to recite "computer-readable medium".

The Examiner further stated that the scope of claims 1-8, 10-42 and 45 is not clear and that no meaningful result is seen from the claims. In the interest of advancing the current

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application to issuance, Applicants have amended independent claims 1, 21, 29, 32 and 39 to recite issuing commands to agents at different network locations to control introduction of the network packets included in the replay data on the computing network by the agents to *recreate network activity at those different network locations*. However, Applicants do not acquiesce to the Examiner's rejection.

In regard to Applicants' claims 1 and 21, the Examiner stated that the step of issuing commands has no functional relationship with the rest of the steps. However, both claims 1 and 21, as amended, recite communicating replay data to agents and issuing commands to the agents to control introduction of the network packets included in the replay data on the computing network by the agents to recreate network activity. A functional relationship clearly exists between sending data to an agent at a location within a computing network and then sending commands that instruct the agent to introduce the data on the computing network to recreate network activity at that location.

In addition, the Examiner stated that the agents recited by Applicants' claim 1 merely capture replay packets from the network and communicate the same back to themselves via the network. The Examiner has misinterpreted Applicants' claim. Applicants' claim recites a relationship between agents and a replay module coupled to the same computing network. Claim 1, as amended, requires that the agents *communicate captured network packets to a replay module*. The claim then recites that the *replay module* selects portions of the captured network packets as replay data and then issues commands to the agents to control introduction of the network packets included in the replay data on the computing network by the agents to recreate network activity.

In regard to Applicants' claim 29, the Examiner stated that no selection of the replay data from the captured network packets by the replay module is possible because the packets are captured by the agents and not by the replay module. The Examiner then noted that the replay module is connected to the computing network and not to the agents. Applicants' claim 29 recites that the plurality of agents are coupled to the computing network at different locations, and that the replay module is also coupled to the same computing network. Since both the agents and the replay module are coupled to the same computing network, although at different locations, the agents and the replay module may communicate with each other through the

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computing network. In addition, claim 29, as amended, requires that the replay module coupled to the computing network receives the captured network packets from the agents coupled to the computing network.

Applicants submit that claims 1-8, 10-42 and 45 particularly point out and distinctly claim the subject matter, as required by 35 U.S.C. 112, second paragraph.

Claim Rejection Under 35 U.S.C. § 103

In the Final Office Action, the Examiner rejected claims 21-28 and 32-38 under 35 U.S.C. 103(a) as being unpatentable over Schwaller et al. (US 6,625,648) (hereinafter "Schwaller"). Applicants respectfully traverse the rejection. The applied references fail to disclose or suggest the inventions defined by Applicants' claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed invention.

In regard to Applicants' independent claims 21 and 32, the Examiner stated that no patentable weight is given to the term "replay" based on the Examiner's conclusion that there is "nothing, not even remotely, recited in the claims that relate to any replay of anything." As described above, Applicants' have amended claims 21 and 32 to recite issuing commands to the agents to control introduction of the network packets included in the replay data at the different locations of the computing network by the agents to *recreate network activity at those locations*. Contrary to the Examiner's assertion, replay data is not merely packets traveling within the network between the agents, and Applicants' claims require structural and functional limitations related to the capture and controlled introduction of the replay data at different locations to recreate previously observed network activity. As specifically recited by Applicants' amended claims, the replay data is communicated to the replay agents, which then introduce the network packets included in the replay data on the computing network at different locations to recreate network activity at those locations. In this way, the agents may be controlled to selectively replay the network packets in order to reproduce network activity that was previously observed and captured by the agents. Clearly, the claims require elements directed to recreating or "replaying" network activity from replay data when introduced on the computing network by the agents.

In this regard, Schwaller fails to teach or suggest replay data or the functions of capturing and subsequently selectively introducing the replay data on the computing network as defined by

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Applicants' amended claims 21 and 32. Instead, Schwaller describes active test protocols provided to endpoint nodes of a communications network based on an *expected* type of application communication traffic. The test protocols of Schwaller *simulate* theoretical (i.e., expected) communication traffic between the endpoint nodes. Contrary to Applicants' claimed invention, Schwaller makes no mention of recreating or replaying previously captured network activity by introducing replay data at appropriate locations within the computing network. Instead, Schwaller teaches creating a test protocol based on *potential* communication traffic and introducing the test protocol onto a network to simulate a theoretical network response to the potential communication traffic. Schwaller does not *replay* actual network packets on the network to recreate previously observed network activity in order to test consistency of the network response.

In regard to claim 32, the Examiner stated that the replay module and the agents are not recited for controlling any conditional flow of portions of the replay data or network packets. The Examiner also stated that no patentable weight is given to the intended use of the packets stored in the replay medium. However, Applicants' claim 32 includes structural elements requiring a replay module that stores replay data and *defines a conditional flow* for introduction of the replay data by the agents. The replay module then communicates the replay data to the agents and performs the functional step of issuing commands to the agents *according to the conditional flow* to control introduction of the network packets included in the replay data on the computing network by the agents to recreate network activity. The Examiner has failed to consider these elements.

Schwaller fails to teach or suggest replay data that defines a conditional flow for introduction of portions of the replay data by the agents. The term "conditional flow" inherently refers to a flow of network packets that changes based on the fulfillment of one or more predefined conditions. Applicants' claimed invention allows the introduction of portions of the replay data based on specific feedback received from the computing network according to the conditional flow. In other words, the replay module may command the agents to perform a certain action when a condition specified in the conditional flow is fulfilled. In this way, the conditional flow may cause the agents to recreate several different network activities to test the computing network depending on which conditions are fulfilled.

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On the contrary, Schwaller describes defining a *test schedule* including a test protocol to simulate communications traffic between a plurality of selected endpoint nodes. Schwaller describes the test schedule as being based on a calendar cycle to provide a start time for initiating execution of the test protocol and a repeat schedule for reinitiating execution of the test protocol. The test schedule described by Schwaller cannot alter the test protocol based on feedback from the network nor does the test schedule include conditions which cause the test protocol to be altered when the conditions are fulfilled. Schwaller fails to describe the test schedule as capable of changing the test protocol based on the feedback received from the computing network. Therefore, the test schedule described by Schwaller cannot be considered a conditional flow as recited by Applicants' independent claims 21 and 32.

In the Final Office Action, the Examiner rejected claims 1-8, 10-20, 29-31, 39-42 and 45 under 35 U.S.C. 103(a) as being unpatentable over Schwaller in view of Allred et al. (US 6,519,723) (hereinafter "Allred"). Applicants respectfully traverse the rejection. The applied references fail to disclose or suggest the inventions defined by Applicants' claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed invention.

The Examiner acknowledged that Schwaller fails to teach capturing network traffic data. However, the Examiner stated that Allred teaches a monitoring and testing system having a protocol analysis for capturing packets from the network and extracting portions of frames from the captured packets. The Examiner further stated that it would have been obvious to one of ordinary skill in the art to capture the network packets in Schwaller such that performance of the network can be analyzed more accurately.

However, Allred merely describes a protocol analyzer that may perform monitoring, capturing/decoding, and traffic generation. As stated in Col. 13, ll. 19-22, the protocol analyzer is capable of accurately translating bit-filled packets, and copying frames, or portions of frames, into memory buffers. However, simply copying network packets or portions of network packets into a storage buffer does not contemplate the Applicants' invention as claimed. Allred makes no suggestion of *selecting* portion of the captured packets for use a *replay data*. Therefore, contrary to the Examiner's conclusions, Schwaller in view of Allred would not have suggested

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capturing network packets from a computing network, selecting portions of the captured network packets as replay data, and then controlling the replay of the selected replay data.

As described above, replay data is not merely packets traveling within the network between the agents. Instead, Applicants' amended claims include functional and structural requirements that the replay data be communicated to the replay agents and the network packets included in the replay data be introduced on the computing network in a controlled manner and at the different locations within the network to *recreate* previously observed network activity. In this way, the agents may replay the network packets in order to reproduce the previously observed activity at the different locations on the computing network. Clearly, the replay data comprises data capable of recreating or "replaying" network activity when introduced on the computing network by the agents.

In addition, Allred fails to describe *selecting* portions of captured network packets as replay data for introduction on the computing network by the agents to recreate network activity, as required by claim 1. Allred states in Col. 12, ll. 35-37 that the protocol analyzer can function as a repeater by *not participating* in any circuit activities and simply relocking the electrical signal back on to the network. As stated by Allred, when functioning as a repeater, the protocol analyzer does *not* participate in any circuit activities. In other words, the protocol analyzer is *not* capturing packets and copying frames into memory buffers, but is merely automatically repeating the electrical signal on the network, i.e., without actively selecting portions of replay data for subsequent introduction.

Further, as discussed in detail above, Schwaller also fails to teach or suggest capturing and controlling introduction of replay data as defined by Applicants' amended claims 1, 29 and 39. Instead, Schwaller describes active test protocols provided to endpoint nodes of a communications network based on an *expected type* of application communication traffic. The test protocols *simulate* communication traffic between the endpoint nodes. Contrary to Applicants' claimed invention, Schwaller makes no mention of recreating or replaying network activity by introducing replay data on the computing network that includes the same network packets that previously created the activity on the computing network. Instead, Schwaller teaches creating a test protocol based on potential communication traffic and introducing the test protocol onto a network to simulate a network response to the potential communication traffic.

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Schwaller does not *replay* actual network packets on the network to recreate previously observed network activity in order to test consistency of the network response.

Even if the teaching of Allred were combined with the teaching of Schwaller, the combined teachings would not result in Applicants' invention as claimed. As described above, both Schwaller and Allred fail to teach replay data as described in Applicants' independent claims 1, 29 and 39. Furthermore, Allred fails to teach selecting captured network packets as replay data, and Schwaller fails to teach controlling introduction of the network packets included in the replay data on a computing network by the agents to recreate network activity at the different locations. Instead, the combined teachings would result in an analyzer capable of copying network packets into a memory buffer, as taught by Allred, and capable of providing active test protocols to endpoint nodes based on an *expected* type of application communication traffic to *simulate* communication traffic between the endpoint nodes. The cited references, either singularly or in combination, fail to teach or suggest selecting captured network packets as replay data and controlling introduction of the network packets included in the replay data on the computing network, as recited by Applicants' independent claims 1, 29 and 39.

For at least these reasons, the Examiner has failed to establish a prima facie case for non-patentability of Applicant's claims 1-8, 10-42 and 45 under 35 U.S.C. 103(a). Withdrawal of this rejection is requested.

CONCLUSION

All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed attorney to discuss this application.

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By:

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